



## Piping Systems - Mechanical Design and Specification - ME-41

### COURSE

#### About the Course

This intermediate level course for engineers and piping system designers reviews the key areas associated with the design of piping systems for oil and gas facilities. The course is focused on four areas: codes and standards, pipe materials and manufacture, piping components, and piping layout and design. Applicable piping codes for oil and gas facilities (ISO, B31.3, B31.4, B31.8, etc.), pipe sizing calculations, pipe installation, and materials selection are an integral part of the course. The emphasis is on proper material selection and specification of piping systems.

*"Instructor very knowledgeable and helpful. Great stories and great emphasis on safety. Great course material (it's good that a book is supplied in addition to the slides for more details)." - Participant, Egypt*

*"I enjoyed this course and learned a ton. Very impressed with quality of instructor and his scope of knowledge." - Leak Detection Engineer, United States*

#### Target Audience

This PetroSkills training course is ideal for mechanical, facilities, plant, or pipeline engineers and piping system designers who are involved in the design of in-plant piping systems for oil and gas facilities.

#### You Will Learn

- To apply piping system codes and standards
- About line sizing and layout of piping systems in various types of facilities
- How to specify proper components for process and utility applications
- To compare alternative materials of construction
- The process of steelmaking, pipe manufacturing, and material specifications
- Joining methods and inspection techniques
- Key considerations for flare and vent systems, including PSV sizing

#### Course Content

- Piping codes and standards (ANSI/ASME, API, ISO)
- Pipe materials and manufacturing
- Basic pipe stress analysis methods

- Valves and actuators
- Welding and non-destructive testing
- Line sizing basics (single-phase and multiphase flow)
- Pipe and valve material selection
- Piping layout and design
- Manifolds, headers, and flare/vent systems
- Non-metallic piping systems
- Operations and maintenance considerations of facilities and pipelines

Product Details

Categories: [Midstream](#), [Downstream](#)

Disciplines: [Mechanical Engineering](#) [Process Facilities](#)

Levels: [Intermediate](#)

Product Type: [Course](#)

Formats Available: [In-Classroom](#) [Virtual](#)

Instructors: [Stuart Watson](#) [Ronald Frend](#) [Josh Gilad](#) [Gerald Guidroz](#)

In-Classroom Format

|            |            |   |        |                           |            |
|------------|------------|---|--------|---------------------------|------------|
| 22 Jul '24 | 26 Jul '24 | - | Course | In-Classroom (in London)  | \$5,585.00 |
| 18 Nov '24 | 22 Nov '24 | - | Course | In-Classroom (in Houston) | \$4,810.00 |

Virtual Format

|            |            |   |        |                        |            |
|------------|------------|---|--------|------------------------|------------|
| 16 Sep '24 | 27 Sep '24 | - | Course | Virtual ( Houston UTC) | \$4,170.00 |
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